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A CONTRIBUTION TO WEST COAST CONCHOLOGY.

BY HENRY HEMPHILL.

Helix var. *feralis* Hemphill.

Shell imperforate, smooth, compact, globose, white (faded), consisting of five convex whorls, the last with an obscure band at the periphery, and slightly descending at the aperture; spire elevated, somewhat pointed; sutures well impressed; aperture oblique, cramped, not effuse, about as wide as high; peristome reflected, thickened, its face rounded, the basal portion in some of the specimens slightly appressed to the body, its terminations very little approached. Subfossil.

Diam. 18, alt. 13 mm.; diam. 16, alt. 11 mm.; diam. 15, alt. 11 mm.; diam. 10, alt. 8 mm.

Habitat: San Nicolas and Santa Barbara Islands.

The Santa Barbara Island specimens measure as follows: Diam. 15, alt. 10 mm.; diam. 14, alt. 9 mm.; diam. $12\frac{1}{2}$, alt. $7\frac{1}{2}$ mm.

This shell appears to be somewhat rare. Thirty-five specimens all told—good, bad and indifferent—were all I found in the week I had on San Nicolas Island, and about ten occurred on Santa Barbara Island.

The lot shows considerable variation in the elevation or depression of the spire, as well as in size, as will be seen by the measurements.

I regard it as a variety of the very variable *H. ruficincta* Newc., but perhaps the species-makers would be better pleased to call it distinct.

Helix var. *sodalis* Hemphill.

Shell umbilicated, very variable in size, white (faded), globose-ly depressed; whorls 5, the last flatly convex above and beneath, smooth, under a good pocket lens appearing very minutely granulated, falling slightly at the aperture; spire a little elevated, obtusely pointed; sutures distinct and moderately impressed; peristome roundly thickened and reflected, its terminations approached and joined by a thin callus, the basal one crowding the umbilicus; aperture subcircular, about as broad as high; umbilicus quite variable in width, showing a portion of the penultimate whorl in some of the specimens. Subfossil.

Diam. 14, alt. 8 mm.; diam. 12, alt. 6 mm.; diam. 10, alt. 5 mm.; diam. $8\frac{1}{2}$, alt. 4 mm.; diam. 7, alt. 4 mm.

Habitat: San Nicolas Island, California.

If this interesting little shell was found in Colorado, New Mexico, or along the eastern line of Arizona, it would very probably be called an *Ashmunella*; if it had been collected in the Ohio Valley it certainly would be called a *Polygyra*; but as it is found away out here on the western limits of the continent, conchologists will be highly delighted to call it *Epiphragmophora* (*Micrarionta*) *ruficincta sodalis* Hemph. Sometimes there is certainly a great deal (of length) in a name.

Besides the extreme variations in size, as shown by the measurements, the larger forms show about the same extremes in the width of the umbilicus. In the living state it must have been of about the same color as *H. ruficincta* Newc., as a few specimens retain the rufus-colored lip and a very faint trace of a peripheral revolving band.

At my request, Dr. Dall compared a series of this shell with his types of *H. guadalupiana*, and has kindly sent me the following notes on the differences of the two forms:

"The fossil helices are interesting. They are nearly related to the recent *catalinæ*, and yet not quite the same. The large specimens of No. 3 from San Nicolas are nearest, but have a different shaped mouth, are more rounded at the periphery and rather more elevated. The small form of No. 3 seems to be the same as your No. 2, which are labeled *guadalupiana* var. *sodalis*. No. 1 is very near *guadalupiana* Dall, but more solid, more rounded and with the upper and lower lips on the body further apart than in the *guadalupiana* proper." "I regard *Gabbi* as distinct, as the umbilicus is

closed and the shell more compact; it is very close to *facta*." "Doubtless all are branches of one stem."

It will be seen by Dr. Dall's remarks that our shell stands closely related to his *catalinae* and *guadalupiana*, with very great differences in size, besides those he has pointed out, which entitle our shell to a name as a variety. As they are "doubtless all branches of one stem," and as we have the stem in *Helix ruficincta* Newc., let us be consistent, follow nature, and call all of them branches (varieties) and not distinct stems.

Helix Tryoni major Hemph.

This variety is very much larger than any of the very many specimens that I have collected. One of the specimens is globose depressed, with an effuse subcircular aperture and a prominent tubercle on the basal portion of the peristome near the termination of the columella. The peristome is thickened, not reflected, the ends not approaching, but they are joined by a heavy callus. The other specimen is narrower, with a conical elevated spire; the aperture is very oblique, laterally expanded, and wider than it is high; the peristome is greatly thickened near the columella, but without a tubercle, not reflected; the ends are very much approached, no perceptible callus joining them.

Diam. 30, alt. 23 mm.; diam. 27, alt. 26 mm.

Habitat: San Nicolas Island, Cal.; subfossil.

Helix Tryoni minor Hemph.

The shell is very much smaller than the types, and shows about the same differences in the elevation and depression of the spire and in the form of the aperture as var. *major*. There is no tubercle on the basal lip, which is very little thickened.

Diam. 17, alt. 13 mm.; diam. $16\frac{1}{2}$, alt. $13\frac{1}{2}$ mm.

Habitat: San Nicolas Island, Cal.; subfossil.

This small form is very close to *Helix* var. *feralis*.

Helix Tryoni maculata n. color-var.

Ground color ashy white, lighter beneath than above; the body whorl and spire speckled with darker spots, banded or bandless at the periphery, form variable in size; spire elevated or depressed.

Diam. 25, alt. 19 mm.; diam. 20, alt. $16\frac{1}{2}$ mm.; diam. 22, alt. 15 mm.

Habitat: Santa Barbara Island, Cal.

I now offer a complete list of the land shells, their varieties, and their range over these islands, as far as I know or have collected them myself, with the single exception of *Helix ayresiana*, from San Miguel Island :

Selenites Duranti Newc. Santa Barbara, San Clemente Islands.

Selenites Duranti catalinensis Hemph. Santa Catalina Island.

Zonites Shepardi Hemph. Santa Catalina Island.

Ariolimax columbianus stramineus Hemph. Santa Cruz Island.

Binneya notabilis J. G. Cooper. Santa Barbara Island, recent and sub-fossil.

Helix ayresiana Newc. San Miguel, Santa Rosa, Santa Cruz Islands.

Helix intercisa W. G. Binn., with varieties *minor* Hemph., *elegans* Hemph., *nepos* Hemph., *albida* Hemph. San Clemente Island.

Helix Tryoni Newc. Varieties *varius* Hemph., *nebulosa* Hemph., *fasciata* Hemph., *californica* Hemph., *albida* Hemph., *maculata* Hemph. Santa Barbara Island.

Helix Tryoni var. *major* Hemph., *minor* Hemph. San Nicolas Island.

Helix Tryoni var. *subcarinata* Hemph. Santa Barbara Island.

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Helix ruficincta Newc. Santa Catalina Island.

Helix ruficincta feralis Hemph. San Nicolas, Santa Barbara Islands.

Helix ruficincta Gabbi Newc. Santa Catalina, San Clemente Islands.

Helix ruficincta facta Newc. Santa Barbara Island.

Helix ruficincta catalinæ Dall. Santa Catalina, Santa Barbara Island.

Helix ruficincta sodalis Hemph.

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Helix kellesti Fbs. Varieties (a) *castaneus* Hemph., *nitidus* Hemph., *multilineata* Hemph., *frater* Hemph., *californica* Hemph., *Forbesii* Hemph., *bicolor* Hemph. Santa Catalina Island.

Helix kellesti var. *redimita* W. G. Binn., *hybrida* Hemph., (b) *castaneus* Hemph., *clementinæ* Dall. San Clemente Island.

Pupa clementina Sterki. San Clemente Island.

Pupa californica catalinaria Sterki. Santa Catalina Island.

Pupa californica elongata Sterki. San Clemente Island.

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Succinea avara Say.

Succinea avara vermeta Say.

Succinea avara guadalupensis Dall.

Succinea avara oregonensis Lea.

Succinea avara rusticana Gld.

This completes the list of the land shells of these islands so far as I know them.

The above arrangement of the *Succineas* may not meet the approval of some conchologists, but these subfossils, as well as the recent forms, go through those successive changes in the development of the shell.

[*To be concluded.*]

A NEW SPECIES OF SUBEMARGINULA FROM CALIFORNIA.

BY W. H. DALL.

Subemarginula Yatesii n. sp.

Shell large, coarse, strong, whitish gray, or pale olive green on the fresher portions, especially a very narrow margin about the base; sculptured with strong, not dichotomous, radial ribs, of which about 20 are primary, between each two of which lie from one to four secondary riblets, most numerous at the sides of the shell; besides these there is a very strong anal fasciole, higher and stronger externally than any of the ribs, extending from the apex, and ending in front at a notch about 3.5 mm. deep and rounded above and behind; the radiating sculpture is sharply and irregularly imbricated by the rude and profuse incremental sculpture, which is too close and irregular to form reticulation; apex small, pointed, not much elevated, situated three-fifths of the way from the front to the posterior margin; the fasciole descending from it swerves a little to the right of the median line of the shell; interior white, the extreme margin pale olive green but almost linear; anal furrow deep, extending nearly to the apex, where it is lost in a very pale olive deposit of shelly matter; margins crenulated by the sculpture; muscular impressions strong, the two recurved scars unequal, the right one larger. Lon. of shell 51, lat. 36, alt. 13 mm.

This shell was received from Dr. L. G. Yates, of Santa Barbara,